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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/736,975	12/14/2000	Megumi Yamada	GRA2.PAU.02	8296
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		EXAMINER		
		BLAU, STEPHEN LUTHER		
		ART UNIT		PAPER NUMBER
		3711		

DATE MAILED: 06/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/736,975

Applicant(s)

YAMADA, MEGUMI

Examiner

Stephen L. Blau

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 April 2004.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,4,6-13 and 45 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1,3,4,6-13 and 45 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 6-8, 10 and 45 are rejected under 35 U.S.C. 102(b) as being anticipated by 10-85373.

10-85373 discloses a first internal layer (Ref. No. 11) of metal containing prepreg wrapped at tip of a shaft ((0046) verbal translation (the metal fiber can be any one of preregs 11-18), English Solution), a layer of non-metal fiber prepreg wrapped adjacent to a first internal layer of metal-containing prepreg throughout a length of a shaft (Ref. No. 12), a layer of metal-containing prepreg being an inner most layer (Ref. No. 11, Figs. 3-4), a layer of non-metal fiber prepreg being wrapped over the inner most layer (Fig. 4), a first internal layer of metal-containing prepreg sheet is located along a length of a shaft between at butt end of the shaft and 40 % of an overall length of a shaft (Fig. 2), a non-metal fiber prepreg (Ref. No. 12) forming a generally non-inflected inner surface throughout the length of the shaft (Fig. 3) and a second layer of metal containing prepreg (Ref. No. 13., (0046) verbal translation (the metal fiber can be any

one of prepregs 11-18), English Solution) wrapped adjacent to the layer of non-metal fiber prepreg (Ref. No. 12, Fig. 4).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, and 6-13 are rejected under 35 U.S.C. 103(a) as being unpatentable under Preece in view of Hsu, and Kusumoto (6,306,047).

Preece discloses a first internal layer of metal containing prepreg wrapped at butt of a shaft (Col. 3, Lns. 39-47, Ref. No. 10), a layer of non-metal fiber prepreg wrapped adjacent to a first internal layer of metal-containing prepreg throughout a length of a shaft (Ref. No. 11, Col. 3, Lns. 29-38), a layer of metal-containing prepreg being an inner most layer (Claim 1), a layer of non-metal fiber prepreg being wrapped over the inner most layer (Figs. 1A-1B), a metal having a specific mass greater than 7 g/cm³ in the form of copper (Col. 3, Lns. 39-45), a metal powder (Col. 3, Lns. 39-47) dispersed (Col. 4, Lns. 60-67) in a synthetic resin, and an epoxy resin (Col. 4, Lns. 33-40), a first internal layer of metal-containing prepreg sheet (Col. 3, Lns. 39-47) is located along a length of a shaft between at butt end of the shaft and 40 % of an overall length of a

shaft in the form of about 25-30 % of the defined length of the shaft (Fig. 1A), the dimensions and location of one or more plies of leaded film may be used to define and /or adjust in part the overall weight, swing weight and balance point of the shaft (Col. 2, Lns. 23-34), multiple layers used in forming a shaft (Ref. Nos. 18, 20, and 22) and conventional means of weighting pre-preg uses tungsten powder (Col. 1, Lns. 49-60).

Preece lacks a first internal layer of metal containing prepreg located along a length of the shaft between a first distal location at a tip and a second more proximal location of a shaft that is less than the full length of the shaft, the first internal layer of metal containing prepreg simultaneously reinforcing the tip of the shaft, adding more mass to the shaft and shifting the center of mass relative to the overall length of the shaft, an inner-most layer of metal-containing prepreg is located along a length of a shaft between at tip end of the shaft and 40 % of an overall length of a shaft, the layer of metal-containing prepreg being a metal fiber, a Tungsten powder, and a non-metal fiber prepreg forming a generally non-inflected inner surface throughout the length of the shaft.

Hsu discloses adding a weighted segment at a tip end of a shaft for lowering the position of the center of gravity of a shaft (Abstract), longitudinal filaments for reinforcement (24) and using metal filaments to weight a tip end of a shaft (Col. 1, Lns. 56-66). In view of the patent of Hsu it would have been obvious to modify the shaft of Preece to have a layer of metal containing prepreg wrapped at a tip of a shaft and an inner-most layer of metal-containing prepreg is located along a length of a shaft between a tip end of the shaft and 40 % of an overall length of a shaft instead of at the

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butt end of a shaft in order to lower the center of gravity of a shaft and as such place more mass near the point of impact between a head and a ball maximizing the transfer of energy to a ball. In addition, in view of the patent of Hsu it would have been obvious to modify the shaft of Preece to have fibers instead of powders to add not only weight but also strength to a tip end of a shaft.

Kusumoto discloses a mandrel having a tip surface being recessed relative to a body surface of the main body of the mandrel (Fig. 1) and a shaft having a generally constant taper throughout the length of a shaft. Kusumoto does not specifically state a layer overlaying a innermost tip reinforcing layer would have a generally non-inflected inner surface throughout the length of the shaft however clearly an artisan skilled in the art of shaping a mandrel to effect the shape of the outer layers with a inner layer which is only along a portion of a shaft would have shaped a mandrel at a portion where an inner layer is located to shape an outer layer in which an adjacent outer layer has a generally non-inflected inner surface throughout the length of the shaft is included. In view of the patent of Kusumoto it would have been obvious to modify the shaft of Preece to have mandrel with a recess at tip end and a non-metal fiber prepreg supported on the first internal layer of metal containing prepreg forming a generally non-inflected inner surface throughout the length of the shaft in order to form an outer surface of a shaft that has a generally constant taper throughout the length of a shaft.

It would have been obvious to modify the shaft of Preece to have a metal powder being tungsten to add more weight to a tip end of the shaft for the same volume of material added.

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Preece in view of Hsu, and Kusumoto (6,306,047) as applied to claims 1 and 6-13 above, and further in view of Takemura.

Preece lacks a shaft having a mass of about 80-130 grams. Takemura discloses a composite shaft having a weight of 80-85 grams (Col. 9, Lns. 10-17). In view of the patent of Takemura it would have been obvious to modify the shaft of Preece to have a shaft weight of 80-85 grams in order to have a swing weight for a specific player's strength which will minimize fatigue while playing a round of golf yet maximize the amount of energy transferred to a ball at impact.

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Preece in view of Hsu, and Kusumoto (6,306,047) as applied to claims 1 and 6-13 above, and further in view of Lezatte.

Preece lacks a center of mass located 45-51 % when measured from a tip end. Lezatte discloses a center of mass located 45-51% when measured from a tip end (Col. 3, Lns. 30-38). In view of the patent of Lezatte it would have been obvious to modify the shaft of Preece to have a center of mass located 45-51% when measure from a tip end in order to have a shaft with a specific swing weight which fits the strength of a golfer.

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Response to Arguments

7. Applicant's arguments with respect to claims 1, 6-8 and 10 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steve Blau whose telephone number is (703) 308-2712. The examiner is available Monday through Friday from 8 a.m. to 4:30 p.m.. If the examiner is unavailable you can contact his supervisor Greg Vidovich whose telephone number is (703) 308-1513. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0858. (TC 3700 Official Fax 703-872-9306)

slb/ 1 June 2004


STEPHEN BLAU
PRIMARY EXAMINER